Appl. No. 10/041,144
Amdt. Dated   June 1, 2005
Reply to Office Action of March 9, 2005

Attorney Docket No. 81784.0247
Customer No. 26021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Previously Presented): A method for driving a solid state imaging device comprising:

accumulating information charges generated in a plurality of light receiving pixels during a first period in portions of vertical shift registers corresponding to each odd line and in portions of vertical shift registers corresponding to each even line;

vertically transferring the information charges accumulated in the portions of vertical shift registers corresponding to each odd line to the portions of vertical shift registers corresponding to each adjacent even line, compounding the information charges originated from the portions of vertical shift registers corresponding to each odd line into the information charges accumulated in the portions of vertical shift registers corresponding to each adjacent even line, and holding resultant information charges in the portions of vertical shift registers corresponding to each even line;

accumulating information charges generated in a light receiving pixel in each odd line during a second period in the portions of vertical shift registers corresponding to each odd line, and of accumulating information charges generated in a light receiving pixel in each even line during the second period in the portions of vertical shift registers corresponding to each even line in addition to the information charges that are already accumulated therein;

transferring the information charges accumulated in the portions of vertical shift registers corresponding to each odd line and the information charges

Appl. No. 10/041,144
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Attorney Docket No. 81784.0247
Customer No. 26021

accumulated in the portions of vertical shift registers corresponding to each even line to a horizontal shift registers and compounding in the horizontal shift register the information charges originated from the portions of vertical shift registers corresponding to each odd line into the information charges originated from the portions of vertical shift registers corresponding to each even line; and

driving the horizontal shift register after compounding in the horizontal shift register to obtain an information output of the solid state imaging device.

2.   (Previously Presented): The driving method according to claim 1, further comprising determining a second period such that the amount of information charges generated in each of the plurality of light receiving pixels during the second period is equal to or less than the charge storage capacity of the light receiving pixels.

3.   (Previously Presented): The driving method according to claim 1, further comprising determining a second period such that the amount of information charges generated in a light receiving pixel corresponding to a maximum luminance portion of an object during the second period falls within a predetermined range relative to the charge storage capacity of the light receiving pixel.

4.   (Previously Presented): A method for driving a solid state imaging device comprising:

accumulating during a first period information charges generated in light receiving pixels in each odd line and of accumulating during a second period information charges generated in the light receiving pixels in each even line, the second period being shorter than the first period;

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Attorney Docket No. 81784.0247
Customer No. 26021

vertically transferring the information charges accumulated in the light receiving pixels in each odd line and the information charges accumulated in the light receiving pixels in each even line to a horizontal shift register after accumulating and compounding the information charges originating from the light receiving pixels in each odd line with the information charges originating from the light receiving pixels in each even line; and

driving the horizontal shift register after compounding to obtain an information output of the solid state imaging device.

5.   (Previously Presented): The driving method according to claim 4, further comprising determining a second period such that the amount of information charges generated in each of the plurality of light receiving pixels during the second period is equal to or less than the charge storage capacity of the light receiving pixels.

6.   (Previously Presented): The driving method according to claim 4, further comprising determining a second period such that the amount of information charges generated in light receiving pixel corresponding to a maximum luminance portion of an object during the second period falls within a predetermined range relative to the charge storage capacity of the light receiving pixel.

7.   (Previously Presented): The method according to claim 1 further comprising arranging the plurality of light receiving pixels in a matrix.

8.   (Previously Presented): The method according to claim 1 further comprising independently vertically transferring information charges from the light receiving pixels in the odd line and from the light receiving pixels in the even line.

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Customer No. 26021

9.   (Previously Presented): The method according to claim 4 further comprising arranging the plurality of light receiving pixels in a matrix.

10.   (Previously Presented): The method according to claim 4 further comprising independently vertically transferring information charges from the light receiving pixels in the odd line and from the light receiving pixels in the even line.

Please add the following new claims:

11.   (New): A method for driving a solid state imaging device comprising:

accumulating information charges generated in a plurality of light receiving pixels during a first period in portions of vertical shift registers corresponding to each odd line and in portions of vertical shift registers corresponding to each even line;

vertically transferring the information charges accumulated in the portions of vertical shift registers corresponding to each odd line to the portions of vertical shift registers corresponding to each adjacent even line, compounding the information charges originated from the portions of vertical shift registers corresponding to each odd line into the information charges accumulated in the portions of vertical shift registers corresponding to each adjacent even line, and holding resultant information charges in the portions of vertical shift registers corresponding to each even line;

accumulating information charges generated in a light receiving pixel in each odd line during a second period in the portions of vertical shift registers corresponding to each odd line, and accumulating information charges generated in a light receiving pixel in each even line during the second period in the portions of vertical shift registers corresponding to each even line in addition to the information charges that are already accumulated therein;

Appl. No. 10/041,144
Amdt. Dated June 1, 2005
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Attorney Docket No. 81784.0247
Customer No. 26021

transferring the information charges accumulated in the portions of vertical shift registers corresponding to each odd line and the information charges accumulated in the portions of vertical shift registers corresponding to each even line to a horizontal shift register; and

driving the horizontal shift register to obtain an information output of the solid state imaging device.

12.   (New): The driving method according to claim 11, further comprising determining a second period such that the amount of information charges generated in each of the plurality of light receiving pixels during the second period is equal to or less than the charge storage capacity of the light receiving pixels.

13.   (New): The driving method according to claim 11, further comprising determining a second period such that the amount of information charges generated in a light receiving pixel corresponding to a maximum luminance portion of an object during the second period falls within a predetermined range relative to the charge storage capacity of the light receiving pixel.

14.   (New): A method for driving a solid state imaging device comprising:

accumulating during a first period information charges generated in light receiving pixels in each odd line and of accumulating during a second period information charges generated in the light receiving pixels in each even line, the second period being shorter than the first period;

vertically transferring the information charges accumulated in the light receiving pixels in each odd line and the information charges accumulated in the light receiving pixels in each even line to a horizontal shift register after accumulating; and

driving the horizontal shift register to obtain an information output of the solid state imaging device.

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Customer No. 26021

15.   (New): The driving method according to claim 14, further comprising determining a second period such that the amount of information charges generated in each of the plurality of light receiving pixels during the second period is equal to or less than the charge storage capacity of the light receiving pixels.

16.   (New): The driving method according to claim 14, further comprising determining a second period such that the amount of information charges generated in light receiving pixel corresponding to a maximum luminance portion of an object during the second period falls within a predetermined range relative to the charge storage capacity of the light receiving pixel.